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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,570

09/27/2005

Kai-Uwe Muench

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EXAMINER

GIMIE, MAHMOUD

ART UNIT

PAPER NUMBER

3747

MAIL DATE

DELIVERY MODE

08/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,570

Applicant(s)

MUENCH ET AL.

Examiner

Mahmoud Gimie

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13 and 15-23 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/28/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 11-13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Usui et al (US 2004/0118382 A1).

Usui et al. disclose an internal combustion engine that includes an injection system configured as a high-pressure accumulator system, the internal combustion engine comprising: at least one high-pressure pump (28); a tubular high-pressure accumulator (11) having a plurality of connection fittings (22,23); a high-pressure supply line (12) connecting the at least one high-pressure pump (28) to the tubular high-pressure accumulator (11); and a plurality of high-pressure connection lines (44a-44d) each connected to one of the connection fittings (22, 23) and configured to provide a valve-

Art Unit: 3747

controlled (26) flow connection to a respective one of a plurality of injection valves of a cylinder row of the internal combustion engine, wherein each of the plurality of connection fittings (22, 23) is disposed laterally offset (figure 6) relative to the corresponding injection valve (26), and wherein an absolute magnitude of the offset is the same for each of the injection valves, see figures 5 and 6.

Regarding claim 12, further comprising a cylinder head having a plurality of cylinders and pistons, and a plurality of working areas, each formed by a respective cylinder, piston, and the cylinder head (four-cylinder engine, paragraph 0047) and wherein each of the plurality of injection valves (26) protrudes into one of the working areas.

Regarding claim 13, wherein an orientation of the offset for a connection fitting (22,23) at at least one end of the cylinder row is opposite to an orientation of the offset for the other connection fittings, see figures 1-6.

Regarding claim 15, wherein the plurality of high-pressure connection lines (34a-34d or 44a-44d) is configured identically, see figures.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usui et al. (US 2004/0118382 A1) in view of EP-0507191 A1.

Art Unit: 3747

Usui et al. disclose all the limitations as applied to claims 11,12,13 and 15 above, except for the following miscellaneous items:

Regarding claim 16, Usui et al. do not teach that the at least one high-pressure pump (28) is disposed close to the cylinder head in a housing, and wherein the at least one high-pressure pump is actuated by an injection pump cam disposed on a gas-exchange camshaft.

EP-0507191 A1 discloses that at least one high-pressure pump (2) is disposed close to the cylinder head in a housing (figure 2), and wherein the at least one high-pressure pump (2) is actuated by an injection pump cam (32, figure 4) disposed on a gas-exchange camshaft.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Usui et al. by locating the cam actuated high-pressure pump near the cylinder head as disclosed by EP-0507191. The motivation to do so would have been to provide a compact engine driven high-pressure pump.

Regarding claim 17, the housing of claim 16 is a crankcase of the internal combustion engine, see figure 2.

Regarding claim 18, wherein the at least one high-pressure pump includes two high-pressure pumps (2, 2a) disposed next to each other at a distance and associated with adjacent cylinders, see figure 1.

Regarding claim 19, wherein the high-pressure connection supply lines are configured identically, see at least figures 5 and 6 of Usui.

Art Unit: 3747

Regarding claim 20, further comprising a control block (38) disposed on an inlet side of the at least one high-pressure pump and configured to control or regulate a fuel pressure to be established in the high-pressure accumulator.

Regarding claim 21, wherein the control block is disposed adjacent to the at least one high-pressure pump.

Regarding claim 22, wherein the at least one high-pressure pump includes two high-pressure pumps and the control block is disposed between the two high-pressure pumps.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Usui et al. (US 2004/0118382 A1) in view of EP-0507191 A1 and Gottemoller et al. (US 2004/0200457 A1).

Usui et al. (US 2004/0118382 A1) in view of EP-0507191 A1 discloses all the limitations as applied to claims 16-22 above, except for a fuel filter as claimed.

Gottemoller et al. disclose a fuel delivery pump (16) and a fuel filter (22) having a support frame disposed between a fuel delivery pump (16) and the at least one high-pressure pump (27), and wherein the control block is integrated into the support frame, see figures 4 and 5.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to further modify the invention of Usui et al. (US 2004/0118382 A1) in view of EP-0507191 A1 by using a filter as claimed. The motivation to do so would have been to reduce contamination of the fuel.

Response to Arguments

6. Applicant's arguments filed on 6/28/07 with regard to rejection of claims 11 to 13 and 15 as being anticipated by Usui et al. have been fully considered but they are not persuasive.

Applicant argued that Usui does not disclose "wherein an absolute magnitude of the offset is the same for each of the injection valves". It is clear that the branches are shaped differently

This argument is not persuasive because the branches are inherently bent sideways the same way. Usui teaches that each branch pipe is inserted into the conduit at the same level or deeper level relative to the level of the tip of the inner collar (para. 0032), which makes it necessary to bent them sideway the same way, so that they maintain the same rigidity. There is no stated reason or otherwise to bend each of the branches sideways differently.

Allowable Subject Matter

7. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

Art Unit: 3747

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud Gimie whose telephone number is 571-272-4841. The examiner can normally be reached on Monday-Friday between 7 a.m. -3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen K. Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3747

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MG


MAHMOUD GIMIE
PRIMARY EXAMINER